Choosing a method for feeding their babies is one of the most important decisions expectant and new parents make. This decision can be even more complicated when the birthing parent is living with HIV. For those who may want to explore breastfeeding as an option, the information available to mothers living with HIV can be confusing.

When a woman has an undetectable viral load [3] (not enough HIV in the blood for tests to measure), the chance that she will transmit HIV to her sexual partners is zero, and the chance that she will transmit HIV to her baby during pregnancy [4] or birth is very low. However, while the risk of HIV transmission through breastfeeding when the mother’s viral load is undetectable is also low, the
level of risk is not zero as is the case with sexual transmission when the person with HIV has an undetectable viral load.

If you are a woman living with HIV in an area of the world where access to resources like clean water, refrigeration, and medical care are limited, the World Health Organization (WHO) recommends that you breastfeed if you are taking HIV drugs. A course of HIV drugs may also be recommended for the baby during breastfeeding. The reason for this recommendation is that, in such resource-limited settings (for instance, many areas of Africa or India), infants are more likely to develop diarrhea and other illnesses, and may die from these. Breast milk contains substances that protect and strengthen a child's immune system, even after they stop breastfeeding. Because of this, breast milk may help children to survive these health conditions. Furthermore, formula feeding may not be an option in these areas due to lack of funds to purchase it, clean water to mix it with (if the formula is powdered), or refrigeration to keep it fresh. Health authorities have determined that the benefits of breastfeeding outweigh the risks of HIV in areas where resources are constrained in this way.

If you are a woman living with HIV in a resource-rich region of the globe, such as the United States or Europe, you have likely been advised not to breastfeed your babies. [HIV treatment guidelines][5] written by health organizations like the US Department of Health and Human Services (DHHS), European AIDS Clinical Society (EACS), and the British HIV Association (BHIVA) all recommend that women living with HIV avoid breastfeeding. Infant formula (as well as clean water and refrigeration) tend to be readily available in these areas, and the chances of a baby dying from illnesses for which breast milk can provide protection is much lower. Therefore, these guidelines are based on the belief that the risk of a baby getting HIV from breast milk is not justified when parents can access safe alternatives.

However, parents in resource-rich areas may be aware of extensive research showing that breast milk is the best food for most babies, protecting a growing baby's health while satisfying all of their nutritional needs. There may also be emotional and cultural reasons why women may want to consider breastfeeding, even if they live in an area where formula is easily accessible. They may experience pressure from their families to breastfeed. Not breastfeeding may become a matter of unwanted disclosure of their HIV status if members of their communities question why they are using formula. If a woman has moved from a resource-limited country to a resource-rich area, she may wonder why she is being given a different set of instructions and potential restrictions in her new country.

The process of deciding how to feed your infant can be overwhelming for parents who are living with HIV. This fact sheet provides some of the information you may want to consider in that process.

**HIV Transmission and Breastfeeding: What Do We Know (and Not Know)?**

Breast milk is one of the body fluids—along with blood, semen ("cum"), vaginal or rectal fluids—that transmit [6] HIV. While the risk of transmission through breast milk decreases if you are on HIV drugs and your viral load is undetectable, there may still be some risk. Having an undetectable viral load in blood may not guarantee an undetectable viral load in breast milk. More research is needed into how HIV drugs affect the cells in breast milk, as well as breastfed infants.

A study among more than 2,000 women and their infants in Africa and India, called the PROMISE trial, compared results when either a breastfeeding mother or her infant took HIV drugs. In both parts of the study, HIV transmission rates to babies were found to be very low—less than 1 percent a year after birth. However, two infants in this study acquired HIV from their mothers even though the mothers had undetectable viral loads.

Breast milk also transfers the mother's antibodies to her baby. This can protect an infant against common illnesses and allergies. Like other medications, the HIV drugs a woman takes are passed on to her baby through breast milk. Research in resource-limited areas shows that this transfer of a
mother’s antibodies and HIV drugs may protect her child from acquiring HIV. However, we do not know how much HIV drug is passed on to breastfed infants, whether that amount changes throughout the period they are breastfeeding, or what long-term effects HIV drugs may have on the child.

In the US and other resource-rich countries, pregnant women are often told that “breast is best,” but women living with HIV are also told that they should not breastfeed. With modern HIV drugs, women’s viral loads [3] may be below detectable levels for a long time. This has many women living with HIV wondering whether the advice not to breastfeed is still true for them.

What information we have on HIV and breastfeeding comes from resource-limited settings, where breastfeeding is recommended and older HIV drugs are common. Women in resource-rich countries usually take newer HIV drugs and are more likely to have access to enough food and clean water. Therefore, breastfeeding may affect the health of both mother and child differently than in resource-limited settings.

Because the risk of HIV transmission to the baby is considered to outweigh the benefits of breastfeeding, guidelines in most resource-rich countries recommend against breastfeeding if the mother is living with HIV. That is why no studies on breastfeeding have been conducted in such countries. However, it is important to point out that in recent years, the DHHS, BHIVA, and EACS HIV treatment guidelines, which all recommend against breastfeeding when formula is available, have all included updates that acknowledge the desire of some women living with HIV in resource-rich countries to breastfeed. While not a recommendation, these guidelines suggest ways for providers to support the health of women who make that choice, as well as their babies. BHIVA’s guidelines stress informed decision-making and support for parents considering breastfeeding. In the US, advocates and clinicians are working to update the US guidelines to reflect these principles.

**What Factors Can Affect HIV Transmission Risk During Breastfeeding?**

- **Adherence challenges for new moms:** Taking care of a newborn is exhausting work. New mothers may forget to take some of their HIV drugs, and often forego their own care as they care for their new babies. Infants also need to see a health care provider often. The mother may not have time to get the baby to all their appointments and go to all of her own HIV-related appointments. Not taking all drugs as prescribed or forgetting a health care appointment may lead to the mother’s viral load going up, increasing the risk for passing HIV on to her baby.

- **Inflammation in a baby’s gut:** This can happen when the baby is vomiting or has diarrhea. Gut irritation has been shown to be a risk factor for HIV transmission through breast milk, because the virus can more easily pass into the baby’s bloodstream through an irritated gut.

- **Breast infections:** A breast infection called mastitis—which is common among breastfeeding mothers whether they are living with HIV or not—can increase HIV viral load even before a woman has symptoms or knows that she has mastitis.

- **Nipple health:** Many women’s nipples become sore or cracked during breastfeeding, whether they are new to parenthood or experienced with breastfeeding. Cracked nipples may expose the baby to some of their mother’s blood, again increasing the risk for transmitting HIV during feeding.

- **Breast engorgement:** A new mother’s breasts can sometimes become engorged (painfully overfilled with milk), which may also increase the viral load in breast milk and the risk of transmitting HIV during feeding.

**Is U Equals U True for Breastfeeding?**

"Undetectable Equals Untransmittable," or "U=U," refers to the large and growing body of research that has shown that a person living with HIV who takes HIV drugs and whose viral load is undetectable cannot pass the virus on [7] to their sexual partners. But the amount of HIV in a woman’s breast milk can be different from the amount in her blood. We do not know whether that is
also true if a woman's viral load has been undetectable for a while and she continues to take HIV drugs.

While the risk of HIV transmission through breastfeeding is low when the mother's viral load is undetectable, the level of risk is not zero as is the case with U=U and sexual transmission of HIV. While research into this issue continues, it is important for care providers and other community health professionals to help women make informed choices based on the information we have today, and to provide support to those who choose to breastfeed their babies.

**What Are the Benefits and Risks of Breastfeeding?**

**Benefits:**

- **Nutrition and protection for baby:** Breast milk is the most nutritious food for babies and young children. It also carries the mother's antibodies, which protect babies from some illnesses and allergies.
- **Health beyond infancy:** Breastfed babies also have lower risk of diseases such as type 2 diabetes and obesity later in life.
- **Cost, availability, and convenience:** Breast milk is free and readily available whenever the mother is with the baby. It can be expressed (pumped) and fed to the baby in a bottle when the mother is not nearby.
- **For the breastfeeding parent:**
  - **Bonding:** Breastfeeding may help new mothers to feel close to their infants.
  - **Mental health:** Breastfeeding can also help new mothers avoid postpartum depression, which can be serious and make it harder to care for a new baby.
  - **Maternal blood loss:** Breastfeeding lowers the risk of blood loss after delivery.
  - **Overall maternal health:** Breastfeeding has also been shown to reduce risk of breast and ovarian cancers [8], high blood pressure, and diabetes.

**Potential risks and challenges:**

- **Transmission:** HIV can be transmitted through breast milk, which could mean that a baby born HIV-negative acquires the virus from their mother's milk. This risk increases if a child is fed breast milk along with other forms of nourishment, such as commercial formula or solid food. That is why the WHO recommends that women in resource-limited countries only feed their babies breast milk for the first six months of their lives. Breastfeeding also sometimes leaves nipples sore or cracked, or breasts can become engorged—which are not only uncomfortable conditions for the mother, but may increase the risk of transmitting HIV to the infant.
- **Breastfeeding difficulties:** Numerous mothers, regardless of their HIV status, struggle with breastfeeding while they work outside the home or take care of other children and a household. Add to this HIV drugs that must be taken on a schedule—or given to the baby on a schedule—and additional appointments with health care providers, and finding the time and space to breastfeed may become even more difficult.
- **Legal considerations:** In countries where clinical recommendations discourage women living with HIV from breastfeeding, there is the chance that a woman who chooses to breastfeed her child may be forced to face child protection authorities, or even criminal charges [9]. According to the HIV Justice Network, prosecutions of women living with HIV for alleged HIV exposure through pregnancy, birth, or breastfeeding are known to have happened in several high-income countries, including the US.
- **Disclosure:** In communities where everyone breastfeeds, choosing not to do so may signal to others that a mother is living with HIV, even though she has not disclosed her status [10] (told others that she is living with the virus). This is especially true if infant formula is provided for free to women living with HIV, but not to other new mothers.
- **Family coercion:** Women may also face pressure from their families to breastfeed. In particular, women have reported being pushed to breastfeed their babies by their mothers-in-law—the paternal grandmothers of their babies.
Overall lack of support for breastfeeding: In some countries, such as the US, women find it difficult to breastfeed, independent of HIV status. Breastfeeding in public places is stigmatized and new mothers are expected to return to work outside the home soon after birth. If "breast is best," women who breastfeed must get the support they need, whether or not they are living with HIV.

How Can Women Living with HIV Feed Their Babies Safely?

There are ways to get your baby breast milk without feeding them your own milk (see below). If you choose to breastfeed yourself, here are some tips to help you do so safely:

- Take your HIV drugs exactly as prescribed ([adherence][11]). This will keep the amount of virus in your blood low and make it far less likely that your baby will acquire HIV. Your health care provider may conduct additional viral load testing while you are breastfeeding.
- Make sure your infant gets their doses of HIV drugs as well. If you are breastfeeding, additional drugs may be prescribed for the baby, and additional testing may be recommended.
- Do your best to breastfeed exclusively (no other forms of nutrition for the baby) for six months. Mixing breastfeeding and infant formula (for example, breastfeeding in the morning and evening and using formula during the day) has been shown to increase the chance of transmitting HIV.
- Take good care of your breasts. Try to avoid engorgement, mastitis, and cracked nipples.
- Find people who will help you to manage the stress of taking care of an infant, healing your own body after birth, breastfeeding, and dealing with your HIV.
- Some women also feel very sad after having a baby (called "postpartum blues" or, in more severe cases, postpartum depression). Seek help if you feel this way.
- Ask knowledgeable people in your community or professionals, such as lactation consultants, for advice on some of the challenges you may experience while breastfeeding, including cracked or sore nipples, or a baby who has difficulty nursing.
- Take good care of your own health. Make sure you get enough healthy food and drink plenty of (clean) water. Breastfeeding is tiring, so get enough rest.

In the United Kingdom, a clinic that serves women living with HIV has developed a tool called the "safer triangle" to help parents understand the risks of breastfeeding, and how to manage those risks. The points on the triangle are:

- **No virus:** only breastfeeding if the mother's viral load is undetectable;
- **Happy tums:** only breastfeeding when the mother and baby both have healthy guts and are not having diarrhea or vomiting, and can both absorb HIV drugs properly; and
- **Healthy breasts for mums:** only breastfeeding when breasts and nipples are free of cracks, bleeding, mastitis, thrush (a common infection in breastfeeding mothers and babies), or other infections.

If one "point" on the triangle is broken, stop breastfeeding, according the clinic's information leaflet. The resource also provides advice for how to pause or stop breastfeeding when necessary.

What Are Other Options for Infant Feeding?

Infant formula

Feeding a baby formula is the safest option from the perspective of HIV, because it is the only way to guarantee absolutely no risk of HIV transmission. Formula is modified cow's (or goat or soy) milk. It is available as a powder (must be mixed with clean water) or liquid (must be refrigerated after the container has been opened). The modifications to the milk make it similar to human breast milk. However, formula does not carry any antibodies and therefore does not provide the protective effects of breast milk. Unlike your own breast milk, formula is (usually) not free.
Milk bank

Women who produce more breast milk than they need for their own baby may give the extra milk to a milk bank. Women with milk to donate go through a screening process and blood tests before donating their milk. The milk bank then gives that milk (often for a cost, depending on the circumstances and the milk bank) to babies who for whatever reason cannot be breastfed. In theory this is a good solution for women living with HIV who want to be sure that there is no way they can transmit the virus to their infant. However, since milk banks depend on donated breast milk, they may not always have enough milk to give away. Also, your baby may get milk from different women who pass on different antibodies. This means they may not get as much of a specific antibody as they would if they were always fed by the same woman who passes on only one particular set of antibodies.

Wet nurse or cross-feeding

One option is for another woman to breastfeed your baby. Before baby bottles became widely available, wet nurses were common. Today, there are some paid wet nurses, or you can have an informal arrangement with a friend. Again, this solution depends on a woman producing more breast milk than she needs. Unlike a milk bank, the woman providing the milk must be in the same place that your baby is, and available whenever your baby needs to be fed. The woman would also need to be screened for health conditions that affect breastfeeding, including HIV.

Flash heating

You can express your breast milk by using a breast pump, then quickly heat the milk to destroy any germs or viruses in it. This process also kills most of the HIV that may be in your breast milk. However, it also destroys some other components of the milk that are good for your baby. It is also an extremely time-consuming process. Flash heating was developed for people in resource-limited countries who do not have access to any of the other options listed here.

What Choice Should I Make?

You are the only person who should decide how your baby will be fed. If you choose to breastfeed, it is important to take your HIV drugs, and keep up with health care visits and viral load testing, exactly as prescribed and recommended by your provider. It is also very important to find a support network, including a provider—and other allies—whom you trust, and who can be good sources for information without judgment.

Making this decision can be a challenging process. You may feel fear, stress, or even some sadness over any of the choices you are considering. It is also important to remember to take care of yourself during this process. It may be helpful for you to connect with a group of women or others who can offer support, to write about your thoughts and concerns, or to engage in some other activity that helps you feel supported as you prepare to make the best possible decision for you and your growing family.

Special thanks to Shannon Weber, MSW from HIV [12] and Lena Serghides, PhD from University of Toronto [13] for their special consultation for this fact sheet.

Tags:
Additional Resources

Select the links below for additional material related to breastfeeding and HIV.

Infant Feeding Basics: For Women Living with HIV in the US (HIVE, PDF) [38]
HIV & Breastfeeding Fact Sheet (Avert) [39]
HIV and Breastfeeding Your Baby (Imperial College Healthcare NHS Trust; PDF) [40]
General Information on Infant Feeding for Women Living with HIV (Imperial College Healthcare NHS Trust; PDF) [41]
Positive Women & Breastfeeding (Women & HIV/AIDS Initiative, Canada; PDF) [42]
Breastfeeding and Special Circumstances: Human Immunodeficiency Virus (HIV) (US Centers for Disease Control and Prevention) [43]
HIV and Infant Feeding (World Health Organization) [44]
HIV and Infant Feeding (UNICEF) [45]
HIV Transmission Through Breastfeeding (Ontario HIV Treatment Network; includes video) [46]
10 Facts on Breastfeeding (World Health Organization) [47]
Let's Talk About Poz, Undetectable Mothers Who Breastfeed (Plus) [48]
Breastfeeding With an Undetectable Viral Load: What Do We Know? (PositiveLite, via TheBody) [49]
Does U=U for Breastfeeding Mothers and Infants? (The Lancet HIV) [50]
Provider Perspectives Towards Infant Feeding Among Women Living with HIV in the United States (Journal of the International AIDS Society) [51]
Can I Breastfeed While Living With HIV? An Overview of Infant Feeding Options

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Links
[8] https://www.thewellproject.org/hiv-information/cancers
[12] https://www.thewellproject.org/hiv-information/breastfeeding
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[33] https://www.thewellproject.org/tags/hiv-breastfeeding-guidelines
[34] https://www.thewellproject.org/tags/hiv-breastfeeding-recommendation
[36] https://www.thewellproject.org/tags/hiv-breast-milk
[37] https://www.thewellproject.org/tags/hiv-breastmilk
[38] https://www.hiveonline.org/whiv/infant_feeding Basics.pdf
[40] https://www.bhiva.org/file/5bf63080d2027/BF-Leaflet-1.pdf
[41] https://www.bhiva.org/file/5bf6308d5e189/BF-Leaflet-2.pdf
[45] https://www.unicef.org/nutrition/index_24827.html